comparing the input signal to the reference signal to obtain a lead signal and a lag signal; [and]

changing the count of an up/down counter in dependence on the input signal, the reference signal, the lead signal and the lag signal; and

using the lead signal, the lag signal and the count signal to produce a phase or frequency signal, including:

forming from the lead and lag signals a difference signal;

filtering the difference signal to produce a filtered signal; and

adding to the filtered signal a correction signal of a magnitude determined in accordance with the count signal.

2. (Amended) The method of Claim 1, wherein [producing a phase or frequency signal comprises using the lead signal and the lag signal to form a difference signal, and filtering] the difference signal is filtered to produce an aliased output signal.

3. (Amended) The method of Claim 2, wherein [producing a phase or frequency signal further comprises:

adding to] the aliased output signal has added to it a correction signal representing a positive or negative phase increment to form an unwrapped output signal.

Cancel claim 4.

5. (Amended) Apparatus for measuring the phase or frequency of a periodic input signal using a periodic reference signal, comprising:

a comparison circuit for comparing the input signal to the reference signal to obtain a lead signal and a lag signal;

a logic circuit, including an up/down counter, responsive to the input signal, the reference signal, the lead signal and the lag signal to change the count of the up/down counter; and

means for using the lead signal, the lag signal and the count signal to produce a phase or frequency signal, including:

forming from the lead and lag signals a difference signal;